

Claims as enclosed to IPER

BASF Aktiengesellschaft

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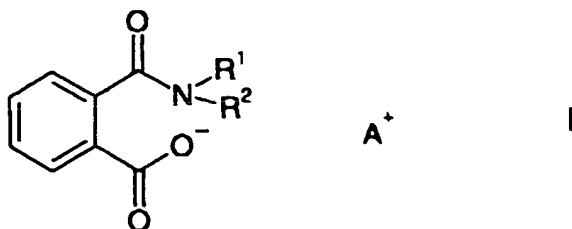
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We claim:

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1. The use of ammonium salts of phthalic acid monoamides of the following formula (I)



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where R^1 and R^2 may be identical or different and are hydrogen or a linear or branched, cyclic or acyclic C_1 - C_{20} -alkyl radical and A^+ is an ammonium cation, as a vapor-space corrosion inhibitor in aqueous coolants of internal combustion engines, in particular during the run-in phase, after which the coolant is drained from the cooling circulation of the engine.

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2. The use as claimed in claim 1, wherein the ammonium salt of the phthalic acid monoamide of the formula (I) is present in an amount of less than ≤ 10 , preferably from 0.1 to 5, in particular from 0.2 to 1.5, % by weight in the coolant.

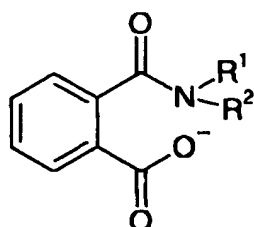
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3. The use as claimed in claim 1 or 2, wherein ammonium salts of phthalic acid monoamides of the formula (I), where R^1 and R^2 are identical or different and are methyl, ethyl, n-propyl, isopropyl, n-hexyl or 2-ethylhexyl, are used.

4. The use as claimed in claim 3, wherein an ammonium salt of a monoamide of the formula (I), where R^1 and R^2 are different from one another and are methyl and 2-ethylhexyl, is used.

5. The use as claimed in any of claims 1 to 4, wherein the ammonium ion A^+ is a cation of the type $[NHR^3R^4R^5]^+$, where R^3 , R^4 and R^5 may be identical or different and may be hydrogen or a linear or branched, cyclic or acyclic alkyl radical of 1 to 6 carbon atoms, it being possible for the alkyl radicals to be unsubstituted or substituted by one or more OH substituents, and the ammonium ion is preferably selected from the group consisting of NH_4^+ , mono-, di- and trialkylammonium cations having 1 to 5 carbon atoms per alkyl radical and mono-, di- and trialkanolammonium cations having 1 to 5 carbon atoms per alkyl radical, more preferably from the group consisting of NH_4^+ and ethanolammonium cations, in particular the ammonium ion or the triethanolammonium cation.

6. An aqueous coolant having vapor-space corrosion inhibiting properties, having at least one ammonium salt of phthalic acid monoamides of the formula (I),

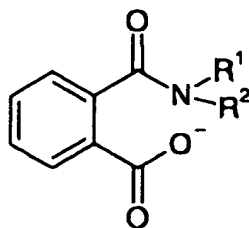


A^+

where R^1 and R^2 may be identical or different and are hydrogen or a linear or branched, cyclic or acyclic C_1 - C_{20} -alkyl radical, and at least one accompanying substance and assistant selected from the group consisting of monoethylene glycol, monopropylene glycol, glycerol and/or mixtures thereof, aliphatic and/or aromatic mono- and dicarboxylic acids and their alkali metal, alkaline earth metal or ammonium salts, triazole derivatives, imidazole derivatives, thiazole derivatives, silicates, nitrites, nitrates, phosphates, amines, alkali metal hydroxides, pyrrolidone

derivatives, polyacrylates, alkaline earth metal salts of organic or inorganic acids, preferably magnesium acetate or magnesium nitrate, molybdates, tungstates, phosphonates and borates.

- 5 7. A coolant as claimed in claim 6, wherein the ammonium salt of the phthalic acid monoamide of the formula (I) is present in an amount of ≤ 10 , preferably from 0.1 to 5, in particular from 0.2 to 1.5, % by weight in the coolant.
8. A coolant as claimed in claim 6 or 7, wherein ammonium salts of phthalic acid monoamides of the formula (I), where R^1 and R^2 are identical or different and are ethyl, n-propyl, isopropyl, n-hexyl or 2-ethylhexyl, preferably methyl or 2-ethylhexyl, are used.
- 10 9. A coolant as claimed in any of claims 6 to 8, wherein the ammonium ion A^+ is a cation of the type $[NHR^3R^4R^5]^+$, where R^3 , R^4 and R^5 may be identical or different and may be hydrogen or a linear or branched, cyclic or acyclic alkyl radical of 1 to 6 carbon atoms, it being possible for the alkyl radicals to be unsubstituted or substituted by one or more OH substituents, and the ammonium ion preferably being selected from the group consisting of NH_4^+ , mono-, di- and trialkylammonium cations having 1 to 5 carbon atoms per alkyl radical and mono-, di- and trialkanolammonium cations having 1 to 5 carbon atoms per alkyl radical, more preferably from the group consisting of NH_4^+ and ethanolammonium cations, in particular the ammonium ion or the triethanolammonium cation.
- 20 10. A radiator antifreeze concentrate containing at least one ammonium salt of phthalic acid monoamides of the formula (I),
- 25



A^+

I

where R¹ and R² may be identical or different and are hydrogen or a linear or branched, cyclic or acyclic C₁-C₂₀-alkyl radical and A⁺ is an ammonium cation, and at least one accompanying substance and assistant selected from the group consisting of monoethylene glycol, monopropylene glycol, glycerol and/or mixtures thereof, aliphatic and/or aromatic mono- and dicarboxylic acids and their alkali metal, alkaline earth metal or ammonium salts, triazole derivatives, imidazole derivatives, thiazole derivatives, silicates, nitrites, nitrates, phosphates, amines, alkali metal hydroxides, pyrrolidone derivatives, polyacrylates, alkaline earth metal salts of organic or inorganic acids, preferably magnesium acetate or magnesium nitrate, molybdates, tungstates, phosphonates and borates.

11. A radiator antifreeze concentrate as claimed in claim 10, wherein the ammonium salt of the phthalic acid monoamide is present in an amount of from 1 to 5, preferably from 2 to 15, % by weight.

12. A radiator antifreeze concentrate as claimed in claim 10 or 11, wherein the ammonium salt of the phthalic acid monoamide of the formula (I) is the triethanolammonium salt of mono-N-methyl-N-2-ethylhexylphthalamide.